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UNDER DIRECTION OF DON TAXAY  
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Jan. 30, 1968

Mr. John J. Ford Jr.  
176 Hendrickson Ave.  
Rockville Centre, N.Y.

Dear John:

As requested by you, I have studied the various exhibits relating to the controversial U.S. Assay Office hoard. These include reports by Walter Breen and yourself, photos of the various hoard pieces (many of which were already familiar to me through my researches in the A.N.S. negative file), a Moffat & Co. die, a large cent overstacked on the reverse by the above die and on the obverse by an Assay Office obverse die for a double eagle, and two double eagle coins in the possession of Harry Forman, which are from the same group as the Garland coin and, for study purpose, comparable to it. I have also examined in superimposition, enlarged transparencies of two Assay Office double eagles, one a Franklin hoard piece, the other a coin of unquestioned character. I should state at the outset that my conclusions have been drawn from numismatic evidence alone, and not from any collateral argument such as that of pedigree. For genuine coins as well as counterfeits have been known to give rise to tall tales. For example, the recently publicized Brasher doubloon is neither a doubloon nor, as alleged, traceable to George Washington, but we do not on that account condemn it. Similarly, if you had asked my opinion of the pedigrees supplied by Paul Franklin with respect to the Assay Office hoard, I would have expressed my skepticism. But, as I understand it, this is not the subject before the arbitration panel, which has rather been formed for the purpose of authenticating the hoard coin now owned by Paul Garland.

On the basis of my own examination of the subject, supplemented by Walter Breen's die study and the affidavits of Prof. Woodbury and other qualified experts, I would not hesitate to pronounce the hoard genuine.

The allegation that these coins have been struck from counterfeit dies, made in turn from genuine coins is demonstrably



false. The lack of perceptible shrinkage, or of any loss of detail in such a highly complex design as the engine-turned reverse, prove, beyond possible refutation, that such was not the case. I have heard it alleged that counterfeiters, using the methods of dentistry, can compensate for shrinkage, but this must be true only with regard to overall circumference. A false coin in which this compensation had been obtained would show a wide rim, but a comparative diminution of all its details, the diminution becoming more marked as it moved away from the center.

Again, if counterfeit dies had been made by some impact reproduction process, using a genuine coin as a hub, there would also be much loss of detail, or, in lieu, evidence of hand finishing.

Of course, there may be other superior reproduction techniques of which we are not fully aware. For example, I understand that dies made by the electroforming technique have been successfully employed by a New York company to strike soft-metal "replicas" of ancient coins. And if we want to become theoretical, that is fanciful, we can doubtless conjure up still more sophisticated techniques. Yet, in the case of the Assay Office hoard, our common sense would dictate that we dismiss all idea of transfer processes because of the large number of different die strikes we are dealing with, and the lack, in every instance, of a known prototype. Let us ask a very preliminary question. If all of these coins were made from false dies, made in turn from genuine coins, then where, O where are the genuine coins? Did someone find a cache of unique coins, and then, assuming he were able to do so (which when his necessary inventory is analyzed becomes inconceivable) go to the fantastic expense of making false dies from each? And if he did, then I should like to know why. For if he succeeded in making a unique or semi-unique counterfeit from each pair of dies, he would ever afterwards be forced to hide his genuine coins to conceal the evidence that a comparison of the real to the false would doubtless betray. This could only be the pastime of a very prosperous madman, and of one also who had at his disposal ways and means utterly beyond our present knowledge and, indeed, conception. Yet it is the hypothesis we must accept if we wish to condemn the hoard or any part of it. And it cannot be overemphasized, as Walter Breen has demonstrated in his excellent analysis of matrix progression, that any conclusion of genuineness or falsity must be applied to the entire hoard. There can be no separate conclusion with regard to this or that coin.

As I understand it, the contention that false dies had been used to make the Assay Office double eagles was based primarily on two technical points, first the existence of certain common flaws in different working dies, and, secondly, the peculiar



character of the reeding. As to the first point, it may be answered that since complete hubs were used by the Assay Office, there is no reason to think that such flaws could not originate in a genuine hub or master die. Minor examples of this phenomenon can be cited among the regular issue U.S. coins, and we should not wonder that the Assay Office, with its limited facilities, would be willing to use a hub or master die even with an advanced flaw. More specifically, the existence of the same "dent" on a Mint collection coin as on the Assay Office double eagles (where, interestingly, it was given as evidence of falsity) should suffice to annihilate this line of argument. Again, the peculiarity of the collar used for the hoard double eagles does not prove anything since widely divergent collars were sometimes used even on the same issue of U.S. mint coins (e.g. the 1837 half dollar.) And if, as everything would indicate, the Assay Office coins in question are of an experimental nature, the peculiarity of the collar seems still less "peculiar."

To my knowledge, no charge of restriking has been preferred against the Assay Office hoard. Nor does it seem to me that any such charge could be responsibly made unless one could produce either the requisite dies and punches, or original impressions which, by their very fabric, reveal an earlier period of manufacture. Any allegation of restriking unaccompanied by such exhibits would be baseless and would not merit refutation. This notwithstanding, it is desirable that we marshal such evidence against the possibility of restriking as is readily available to us. First, the condition of the dies which struck the various hoard pieces was not what one would expect after a period of more than a century. Of course, the dies might have been greased, but if so then why was the one matrix which did turn up in the hoard so incredibly rusted that it could only be identified after the most drastic cleaning? More important, the large cent which has been overstruck on the reverse by the same die shows no evidence of die rust, but does show what appears to both Walter Breen and myself to be a genuine patination which could only have been acquired after a good many years. Thirdly, the maker of the hoard coins must have had in his possession not only an enormous number of dies, but also various of Albert Kuner's punches, which are known to have been destroyed by fire in 1911.



I note, somewhat unhappily, that you have brought the matter of the Assay Office double eagles to the attention of the Mint Bureau. It strikes me, especially after reading the comments of the Director of that Bureau, that the Mint is altogether unqualified to arbitrate issues involving 19th century technology. For example, in Miss Adams' letter to you of 7/27/67, she states that "it was not until just prior to the passage of the Act of 1873, that other refining methods (i.e. other than cupellation -- D.T.) employing acid processes, provided for the separation and purification of gold and silver." This is absolutely incorrect. Nitric acid refining was practiced in the Mint from its earliest days. During the period of the first Mint, copper was used to form copper nitrate in order to release the silver from solution. Then, when Franklin Peale returned from Europe in 1835, the Mint adopted the more advanced technique that was being used by P.N. Johnson's refinery in London. This obviated the need for furnace refining, and permitted the recovery of the quartered silver by means of common salt. The silver nitrate was subjected to a strong solution of sodium chloride, which produced silver chloride and nitrate of soda. Finally, the silver chloride was treated with granulated zinc, producing zinc chloride and pure metallic silver. But surely I need not tell you all this, especially as I have documented it in great detail in my U.S. Mint and Coinage.

We now come to the second, very gross error in the Director's thinking, this with regard to the experimental alloys used in the hoard double eagles. The significance of these alloys has been very much misunderstood. Miss Adams, referring to the three coins which have been analyzed at finenesses of .880, .890 and .910, states: "Since the three alloys would be indistinguishable in their manufacturing and coining properties, it is not likely that any mint would have considered making them as 'experimental alloys.'" Then, in order to justify her statement, she goes on to suggest that the laboratory rounded off the figures to the nearest hundredth, giving a false appearance of exactitude.

I understand from you that the laboratory has confirmed the fact that its results were calculated to the thousandth and not to the hundredth as Miss Adams suggests. This very important point now clarified, we can proceed to the first of the Director's contentions, that "since the three alloys would be indistinguishable in their manufacturing and coining properties, it is not likely that any mint would have considered making them as 'experimental alloys.'" Miss Adams is not only confusing our present metallurgical knowledge with that of an earlier period, but is completely unaware of the historical circumstances and determining factors of the latter. She might be informed, for example, that in 1835 the Philadelphia Mint struck six different quarter eagles in experimental alloys of so slight a difference that only various numbers of pin-point pricks impressed into each could differentiate them.



What are the criteria by which an alloy is selected? Appearance is one. Another is how well it resists the effects of attrition. Still another, and one that was especially important during the 19th century, is how well it receives an impression. These are general considerations, but to their ranks we must be prepared to admit others also if circumstances warrant. The U.S. Assay Office is a case in point. During 1851 and 1852 we find the contractors, Moffat & Co., regularly striking coins of .880, .884 and .887 fineness. And here we are dealing not with experiments, but with mint practice! The reasons, of course, are to be found in Moffat and Co.'s cost controls and the comparative availability of refining acids which were habitually in short supply. And this brings us back to your experimental double eagles, and the reason why, in my opinion, they were struck.

It is well known that in September 1852, Acting Secretary of the Treasury Hodge instructed the Collector of Customs at San Francisco that Congress had prohibited him from receiving the issues of the U.S. Assay Office. In point of fact, Congress had done no such thing, but only insisted that all payments of public dues be made with standard (i.e. .900 fine) coins. At the time, the Assay Office had been striking coins of a fineness as high as .887, but in the eyes of the Treasury Department (at least of that day!) a disparity of 13/1000ths was sufficient cause to demonitize the issue. Of course, when pushed to the wall, the Assay Office did indeed come up with .900 fine coins since these were required by the merchants who depended so greatly on imports. But if the Customs House demanded .900 fine coins, the public at large did not. They were content if their coins contained full face value. Therefore, the Assay Office, which was neither bound by law to issue .900 fine coins, nor prohibited by contract from striking coins under their private name, prepared to do both. As you know, there are in the Connecticut State Library, U.S. Assay Office die impressions of an eagle and half eagle of 1853, complete in every way save for the fineness which was still undecided. Moreover, the 1853 Moffat & Co. double eagle, and the existence of a die impression of the same year for a Moffat & Co. half eagle, show what the contractors finally adopted as the best solution to the problem. They would issue on demand the .900 fine Assay Office coins required for public dues, and, for the rest, coins of a lesser fineness which bore their own imprint. This was both profitable and practicable, and, as I have said, completely within their legal rights. In this connection we should recall also that while John L. Moffat had left the firm in February 1852, Curtis, Perry & Ward retained the right to use the Moffat name. This they did with considerable foresight, and doubtless because even then they contemplated the resumption of coinage under their own name.

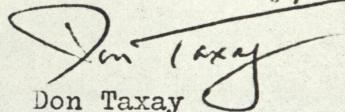


John J. Ford Jr.

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And so, as you will no doubt agree, it all hangs together, including the experimental alloys and all the other delightfully strange artifacts in the hoard. I cannot imagine how any one with numismatic knowledge and all of your evidence at his disposal can possibly form an opinion unfavorable to the coins. The case for their genuineness is overwhelming and irrefutable. And you may be interested in knowing that one member of the arbitration panel has already confided to me his faith in their genuineness. I do not know what more I can add except, perhaps, a word of praise for the very thorough manner in which you and Walter Breen have prepared the case for the defense.

Yours sincerely,

  
Don Taxay

P.S. I have passed over a number of minor matters such as the helical lines, as they have been more than adequately dealt with in your report.